

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA

IN RE CAPACITORS ANTITRUST  
LITIGATION

MDL Case No. [17-md-02801-JD](#)

Case Nos. 14-3264 (Flextronics' action);  
17-3472; 17-7046; 17-7047; 18-2657;  
19-1902

**ORDER RE MOTION TO EXCLUDE  
DR. LESLIE M. MARX**

MDL Dkt. No. 652

Among the many constituent cases in this multi-district antitrust litigation are six actions brought by companies that opted out of the direct purchaser class to pursue claims on their own. In those direct action plaintiff (DAP) cases, defendants filed a *Daubert* motion to exclude the opinions of Dr. Leslie M. Marx, an economist retained jointly as a testifying expert witness by the DAPs. Dkt. No. 652.<sup>1</sup> The Court held a concurrent expert proceeding, known informally as a “hot tub,” after which the parties filed supplemental briefs. Dkt. Nos. 1380, 1388, 1389. The request to exclude Dr. Marx is denied, with some limited exceptions.

**BACKGROUND**

The six DAP cases are: (1) Flextronics' case in *In re Capacitors Antitrust Litigation*, No. 14-3264; (2) *The AASI Beneficiaries Trust, by and through Kenneth A. Welt, Liquidating Trustee v. AVX Corp.*, No. 17-3472; (3) *Avnet Inc. v. Hitachi Chemical Co. Ltd.*, No. 17-7046; (4) *Benchmark Electronics Inc. v. AVX Corp.*, No. 17-7047; (5) *Arrow Electronics, Inc. v. ELNA Co., Ltd.*, No. 18-2657; and (6) *Jaco Electronics Inc. v. Nippon Chemi-Con Corp.*, No. 19-1902.

<sup>1</sup> All docket number references are to the MDL docket, Case No. 17-md-02801-JD, unless otherwise specified.

All are constituent cases in the MDL that are separate actions proceeding individually. Direct action plaintiffs Flextronics, AASI, Avnet, Benchmark, and Arrow jointly engaged Dr. Leslie M. Marx to “determine the extent, if any, to which they were overcharged as a result of a conspiracy among suppliers of aluminum, tantalum, and film capacitors.” Dkt. No. 772-7 (Marx Report) ¶ 8.<sup>2</sup> Dr. Marx performed an analysis utilizing multiple regressions, and concluded that “the prices of capacitors were elevated relative to non-collusive levels as a result of Cartel Participants’ conduct.” *Id.* ¶ 16. She quantified “the extent of this elevation using an econometric model of overcharges,” and found that AASI, Arrow, Avnet, Benchmark, and Flextronics had all been subject to overcharges for their capacitor purchases during the relevant time period, in the range of 16.4% to 18.9%. *Id.* ¶¶ 16-17.

Some of the defendants in the DAP cases jointly filed a motion to exclude Dr. Marx’s opinion and testimony under Rules 104(a) and 702 of the Federal Rules of Evidence, and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). Dkt. No. 652. Defendants say that Dr. Marx’s econometric model is unreliable and invalid, and so is inadmissible for any use in the litigations. *Id.* They ask that Dr. Marx be excluded completely. *Id.*

After the motion was fully briefed, defendants proposed that the Court defer a decision on it and pending summary judgment motions to hold a hot tub featuring DAPs’ expert, Dr. Marx, and defendants’ experts, Dr. Laila Haider and Dr. Stephen Prowse. Dkt. No. 1276. The Court had conducted a similar hot tub of the economists testifying in the DPP class action. Dkt. No. 957. The DAPs did not object, and the Court set a hot tub modelled on the prior one, Dkt. No. 1279, and directed the experts to prepare a joint statement of the top five areas of disagreement ranked in descending order of importance. Dkt. Nos. 1317, 1365. As is the Court’s practice, the statement was to be prepared directly by the experts themselves, without involvement of the attorneys. Dkt. No. 1365. This was done because, in the Court’s experience, hot tubs are most useful when the opposing experts work and communicate directly with each other, free of attorney filtering.

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<sup>2</sup> Jaco did not engage Dr. Marx and was initially not a part of the *Daubert* motion briefing, but it later joined in the concurrent expert proceeding and supplemental briefing. Dkt. Nos. 1382, 1389.

The joint statement of Dr. Haider, Dr. Prowse, and Dr. Marx, listed just two topics of disagreement. Dkt. No. 1346. One was Dr. Marx's use of a "specific type of price index, called a 'chained Fisher price index,' as the dependent variable in her regression equations." *Id.*, Ex. 1. Dr. Prowse expressed the opinion that this is "not a peer-reviewed or otherwise accepted methodology in the economics community for calculating market-wide overcharges due to price-fixing." *Id.* The other disagreement concerned the reliability of Dr. Marx's regressions equations, specifically in connection with the outcomes generated when the starting month for the annual cartel indicator variable was changed. *Id.* Dr. Haider opined that a methodology cannot be valid "when a trivial change to the starting month yields starkly different and even absurd results." *Id.*

The joint statement framed a lively discussion among the experts which was held before the Court for more than two hours via remote access video due to pandemic concerns. Dkt. Nos. 1380, 1382. The experts presented slide shows, and engaged in an in-depth conversation and exchange of views moderated by the Court. Dkt. No. 1382. As the Court has found in similar proceedings, this interaction was immensely helpful in understanding each expert's point of view and theory of the case, far more so than the often stultifying Q&A routine of traditional *Daubert* hearings. At the end of the experts' discussion, the Court invited the attorneys to ask questions of the experts, and directed the parties to submit simultaneous, supplemental briefs, addressing the main issues that emerged from the hot tub. *Id.* at 71:8-81:22; Dkt. Nos. 1388, 1389. This order resolves the *Daubert* challenges as focused by the concurrent expert proceeding and the supplemental briefing.

## DISCUSSION

### I. LEGAL STANDARDS

Rule 702 of the Federal Rules of Evidence provides that:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

(a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;

(b) the testimony is based on sufficient facts or data;

(c) the testimony is the product of reliable principles and methods;  
and

(d) the expert has reliably applied the principles and methods to the  
facts of the case.

The Court's obligation under Rule 702 is to "ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable." *Daubert*, 509 U.S. at 589. There is no "definitive checklist or test" for this determination, and the "inquiry envisioned by Rule 702 is . . . a flexible one." *Id.* at 593-94. The determination is made with the understanding that "[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." *Id.* at 596.

The Court's "gatekeeping" duty for admissibility under *Daubert* "applies not only to testimony based on 'scientific' knowledge, but also to testimony based on 'technical' and 'other specialized' knowledge." *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 141 (1999). "[T]he test of reliability is 'flexible,' and *Daubert*'s list of specific factors neither necessarily nor exclusively applies to all experts or in every case." *Id.* The Court has "considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable." *Id.* at 152.

Our circuit has identified "several non-exclusive factors that judges can consider when determining whether to admit expert testimony under Rule 702," such as "whether the theory or technique employed by the expert is generally accepted in the scientific community; whether it's been subjected to peer review and publication; whether it can be and has been tested; and whether the known or potential rate of error is acceptable." *Wendell v. GlaxoSmithKline LLC*, 858 F.3d 1227, 1232 (9th Cir. 2017) (quotations and citations omitted). The Court may "also consider whether experts are testifying 'about matters growing naturally' out of their own independent research, or if 'they have developed their opinions expressly for purposes of testifying.'" *Id.* These factors are "illustrative, and they are not all applicable in each case"; the *Daubert* inquiry is "flexible," and "Rule 702 should be applied with a 'liberal thrust' favoring admission." *Id.* (quotations and citations omitted).

## II. THE EXPERTS' DISAGREEMENTS

### A. The Fisher Price Index

Before getting to the experts' disagreements, a word about Dr. Marx is in order. Defendants did not challenge Dr. Marx's qualifications, and for good reason. She holds a B.S. in mathematics from Duke University and a Ph.D. in economics from Northwestern University. Marx Report ¶ 1. Since 2002, she has been a Professor of Economics at the Fuqua School of Business at Duke University, and she is also a partner at Bates White Economic Consulting, a professional services firm. *Id.* ¶¶ 1-2. Among other relevant experience, she was the Chief Economist for the Federal Communications Commission from 2005 to 2006, and has co-taught sessions on "Cartels" and "Agreement and Facilitation Practices" at the Antitrust Law & Economics Institute for Judges, which was co-sponsored by the ABA Section of Antitrust Law and the Law & Economics Center at George Mason University School of Law. *Id.* ¶¶ 2, 4. Dr. Marx has also taught "Advanced Merger Economics," "Cartel Investigations," "Proving Collusive Agreements," and "Pleading and Proving Conspiracy" at the ABA Antitrust Section Masters Course. *Id.* ¶ 4. She is well qualified to provide expert opinions in the field of antitrust economics.

The main disagreement at the hot tub was about Dr. Marx's use of a chained Fisher price index as the dependent variable in her regression analysis. In defendants' view, this was highly unorthodox, "not generally accepted in the professional economics community," and not "subjected to peer review." Dkt. No. 652 at 8. At the hot tub, Dr. Prowse said there is "no support for [using] a price index as a dependent variable in [a] regression designed to calculate overcharges in the economics literature." Dkt. No. 1382 at 20:7-9. He opined that the only "accepted method for constructing the dependent variable when there may be thousands of transactions for heterogenous products in each month, which it the case here," is "to use panel data." *Id.* at 23:17-21; *see also id.* at 25:22-24 ("panel data is overwhelmingly recommended for use by professional economists in the peer-reviewed economic literature to estimate overcharges in price-fixing matters.").

1 The *Daubert* factors in play here are “whether the theory or technique employed by the  
2 expert is generally accepted in the scientific community,” and “whether it’s been subjected to peer  
3 review and publication.” *Wendell*, 858 F.3d at 1232. Additional relevant caveats are that “general  
4 acceptance” is not an “absolute prerequisite to admissibility,” and “peer review and publication”  
5 are also not “dispositive” considerations. *Daubert*, 509 U.S. at 588, 593-94.

6 Defendants have not demonstrated that Dr. Marx’s use of the Fisher price index as a  
7 dependent variable is so far beyond the pale as to warrant exclusion. As Dr. Marx stated at the hot  
8 tub, the “time series approach,” which includes using a price index as the dependent variable, is  
9 “put forward side-by-side with a panel regression approach in the ABA handbook.” Dkt.  
10 No. 1382 at 40:24-41:2; *see also* Dkt. No. 1389-4 (*Proving Antitrust Damages: Legal and*  
11 *Economic Issues*, 3rd ed. (Washington, DC: ABA Section of Antitrust Law, 2017)) at ECF p. 50  
12 (“Datasets can be composed of single observations over a period of time (a time series) or of a  
13 number of observations in [a] single time period (a cross section). In general, data sets consisting  
14 of both time series and cross-sectional observations are called cross-section time series data or  
15 panel data.”).

16 DAPs proffered other sources that validate Dr. Marx’s approach as within the range of  
17 accepted methodology in the field. *See, e.g.*, Dkt. No. 1389-3 (*Regression Estimates of Damages*  
18 *in Price-Fixing Cases*, Law and Contemporary Problems, Vol. 46; No. 4 (1983) by Finkelstein &  
19 Levenbach) at ECF pp. 22-25 (“The difficulty of constructing econometric models that satisfy  
20 theoretical requirements suggests that one might use more general methods that do not assume that  
21 the explanatory variables included in the equation have accounted for everything except random  
22 error. This point of view leads to various methods of time series analysis that have found  
23 widespread applications in recent years.”; “In the absence of a consensus, advocates of time series  
24 analysis argue that their methods should be preferred because of simplicity and directness.”); Dkt.  
25 No. 1389-9 (*A Practical Guide to Price Index and Hedonic Techniques (Practical Econometrics)*  
26 (2014) by Ana M. Aizcorbe) at ECF pp. 3-4 (potential application of price index and hedonic  
27 techniques includes determination of “how much prices deviated from this benchmark due to  
28 alleged anti-competitive practices”); Dkt. No. 1389-12 (*Estimating Overcharges in Antitrust*

1 *Cases Using a Reduced-Form Approach: Methods and Issues*, Journal of Applied Economics, by  
 2 James Neiderberg) at ECF p. 17 (“time-series data frequently are used in econometric analyses  
 3 related to antitrust issues”); Dkt. No. 1389-14 (*Quantifying Antitrust Damages: Towards Non-*  
 4 *Binding Guidance for Courts (Study Prepared for the European Commission)*) at ECF p. 7  
 5 (“comparator-based approaches” include “time-series comparisons (analyzing prices before,  
 6 during, and/or after an infringement)”).

7 DAPs also established that defendants’ own experts have used a time series approach, and  
 8 in some cases, the Fisher price index itself, or have spoken of these approaches as being  
 9 acceptable choices. *See, e.g.*, Dkt. No. 1387-8 (Expert Report of Dr. Darrell Williams) at ECF  
 10 pp. 6-12 (multiple graphs using Fisher price index); Dkt. No. 1387-10 (Deposition Transcript of  
 11 Dr. Warren-Boulton) at ECF pp. 5-6 (“There are multiple indexes that you can form. Each one  
 12 has particular advantages and disadvantages. The two most common are the Fisher linked price  
 13 index and what’s called the hedonic price index. Both are used routinely by the government for  
 14 things like the Consumer Price Index. Some in -- in antitrust cases people will use the Fisher  
 15 index. Sometimes they’ll use a hedonic.”; “I don’t have a strong opinion as to which one is  
 16 better.”).

17 It may be that Dr. Prowse personally favors a panel data approach to a time series in his  
 18 own work, *see* Dkt. No. 1382 at 23:21, but that does not detract from the validity of Dr. Marx’s  
 19 method. There is more than one way to peel an onion, and the use of a different method is not  
 20 automatically “junk science” or a “bogus” approach that warrants total exclusion. *Wendell*, 858  
 21 F.3d at 1235-37. Based on the discussion at the hot tub and the parties’ briefing, the Court  
 22 concludes that Dr. Marx’s analysis is sufficiently reliable and valid to be admissible under Rule  
 23 702 and *Daubert*. Defendants will have ample opportunity at trial to test it through vigorous  
 24 cross-examination, the presentation of counter-evidence, and instruction on the burden of proof.  
 25 *See Daubert*, 509 U.S. at 596.

#### 26 **B. The January Start Date**

27 The disagreement over Dr. Marx’s use of January as starting point for the annual cartel  
 28 indicator variable in her regression analysis also is not a ground for disqualification of her

1 opinions. That is because Dr. Haider and Dr. Prowse ultimately pinned the starting month dispute  
 2 to the price index method. When the Court asked, “what is the core problem in [Dr. Marx’s]  
 3 methodology, in your view, that leads to this sensitivity for starting months,” Dr. Haider referred  
 4 to the use of “time series econometrics.” Dkt. No. 1382 at 52:7-21; *see also id.* at 54:3-9 (“So it is  
 5 -- just to sum up. She compresses it down to a single price line. And she said herself she chose a  
 6 time series methodology because she thinks that’s the best way to go. Once she chose to go down  
 7 that route and once she went down that route, there are certain statistical properties that the line  
 8 may have.”). Dr. Prowse also identified “construction of Dr. Marx’s invalid Fisher price index on  
 9 the left-hand side” as the main “core problem . . . generating this instability in Dr. Marx’s results  
 10 month to month.” *Id.* at 69:16-21. Dr. Prowse added that, “if you take Dr. Marx’s model and all  
 11 you do is change the dependent variable to be a panel data variable and use fixed effects, the  
 12 instability that you see in the -- depending on which month you start, basically goes away.” *Id.* at  
 13 69:25-70:2. In effect, the starting month dispute is a reprise of the disagreement over the use of  
 14 the price index, and the Court declines to exclude Dr. Marx’s opinions for the same reasons.

15 Dr. Haider and Dr. Prowse also opined that the starting month instability in Dr. Marx’s  
 16 analysis was a function of her decision to use a lagged dependent variable. Dkt. No. 1382  
 17 at 52:22-24; 69:21-22. In response, Dr. Marx established that this was consistent with the  
 18 accepted literature, *id.* at 56:22-57:16, and that her model stood up when she removed this  
 19 variable. *Id.* at 58:17-61:11. The experts’ discussion at the hot tub indicated that this issue was  
 20 more a dispute about weight, and consequently appropriate for cross-examination at trial, than of  
 21 admissibility. *See In re Capacitors Antitrust Litigation (No. III)*, No. 17-md-02801-JD, 2018 WL  
 22 5980139, at \*6 (N.D. Cal. Nov. 14, 2018) (observations about whether expert properly included  
 23 all variables in regression analysis is “grist for a good cross-examination at trial, but they do not  
 24 play a material role in deciding whether [expert’s] work should be admitted under Rule 702”).  
 25 Defendants have not shown that Dr. Marx’s inclusion of a lagged dependent variable is akin to  
 26 anything like junk science.

27 So too for defendants’ passing suggestion in a brief that Dr. Marx’s model “imposes an  
 28 artificial pattern on the monthly overcharges of each year,” such that “for any given year, the

1 monthly overcharges will either always increase month to month, or always decrease month to  
 2 month.” Dkt. No. 652 at 10-11. The experts did not identify this in their joint statement of  
 3 disputed issues, and it was not discussed or even mentioned during the concurrent expert  
 4 proceeding. Defendants did not develop the point otherwise in any way. It is not a basis for  
 5 excluding Dr. Marx.

### 6 **III. OTHER PROPOSED TESTIMONY**

7 Defendants ask that any testimony by Dr. Marx based on Section III of her report be  
 8 excluded “because her AVX/KEMET testimony is unsupported by the evidence and her remaining  
 9 testimony is outside the scope of her expertise and adds nothing to the record.” Dkt. No. 652 at  
 10 11-14. The parties agreed that this was a purely legal issue that should not be a part of the expert  
 11 hot tub. Dkt. No. 1317 at 2.

12 In Section III, Dr. Marx states that she “review[s] the information available concerning the  
 13 existence and operation of the capacitors cartel. This review serves two purposes. First, it  
 14 supports the reasonableness of the assumption given to me by counsel that there was a cartel  
 15 among capacitor manufacturers. Second, it supports the conclusion that the cartel was effective in  
 16 elevating prices above what they otherwise would have been.” Marx Report ¶ 44. Dr. Marx also  
 17 noted in a “scope of charge” section that “[c]ounsel instructed me to assume the existence of a  
 18 capacitors conspiracy and to assume that the participants in the conspiracy included” certain  
 19 defendants and other non-parties. *Id.* ¶ 9.

20 As a general proposition, the Court is not troubled by Dr. Marx’s summary of the  
 21 background facts provided by counsel as the context of her econometric analysis. Her mention of  
 22 strictly legal matters is a different matter. In a “summary of opinions,” Dr. Marx states: “The  
 23 record in this matter, including guilty pleas, findings of government competition agencies  
 24 worldwide, and contemporaneous documents, indicates that the Cartel Participants held hundreds  
 25 of meetings and engaged in bi-lateral and multi-lateral communications over a period extending  
 26 from at least as early as 1997 through early 2014. In these meetings and communications, the  
 27 Cartel Participants exchanged competitively sensitive information and made statements regarding  
 28 the legal risks of their conduct. Economically rational actors would not engage in such conduct

1 without deriving benefits from it. Indeed, my review of the record indicates that the cartel  
2 included the collusive structures -- pricing, allocation, and monitoring and enforcement structures  
3 -- known in the literature to facilitate effective collusion. This supports the conclusion that the  
4 cartel was effective in elevating prices above what they otherwise would have been.” Marx  
5 Report ¶ 15.

6 These comments are well outside Dr. Marx’s domain of antitrust economics. She will not  
7 be permitted to offer opinions along these lines at trial. Specifically, Dr. Marx may not testify  
8 about collusion, violations of antitrust law, or anticompetitive actions allegedly undertaken by  
9 defendants and non-parties in these cases. Those opinions are excluded under Rule 702, and  
10 because they would confuse and mislead the jury. FRE 402, 403.

11 **IT IS SO ORDERED.**

12 Dated: November 18, 2021

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JAMES DONATO  
United States District Judge